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Farina , et al. *** April 21, 1992**

Polypeptide-labeled analyte analog for carrying out an immunoassay

Abstract

A polypeptide-labeled analyte analog for use in an immunoassay is prepared which is capable of binding with a polypeptide partner to provide enzymatic activity such as a ribonuclease or .beta.-galactosidase activity. The polypeptide analog provides a highly sensitive, immunoassay method for determining the amount of an analyte in a sample containing a known analyte in an unknown concentration. To carry out an immunoassay, there is brought together in a medium a sample, the polypeptide-labeled analog of the analyte, an antibody specific for said analyte, a polypeptide partner capable of non-covalently binding with the polypeptide-labeled analyte analog to form a complex having catalytic activity, and a substrate capable of being converted to a reporter molecule by the catalytic activity of said complex. The polypeptide-labeled analyte analog is capable of competitively binding to the antibody and the polypeptide partner, the antibody inhibiting the formation of a catalytically active complex in the absence of analyte, and the concentrations of the antibody, polypeptide partner and polypeptide-labeled analyte are such as to cause varying amounts of analyte to be directly related to the conversion of the substrate to the ***reporter molecule***. Conversion of the substrate to the ***reporter molecule*** is then determined, and compared to conversions of substrate to reporter molecule obtained with known concentrations of the analyte.

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[*] Notice: The portion of the term of this patent subsequent to November 15, 2005 has been disclaimed.

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